REMARKS

Claims 1, 4-10, 13-19 and 22-26 are pending. Claims 1, 4, 9-10, 13 and 18-19 are amended herein. No new matter is added as a result of the claim amendments.

103 Rejections

The instant Office Action states that Claims 1, 4-10, 13-19 and 22-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "The Transmeta Code Morphing™ Software: Using Speculation, Recovery, and Adaptive Retranslation to Address Real-Life Challenges" (hereinafter "Dehnert") in view of U.S. Patent No. 5,881,280 to Gupta et al. (hereinafter "Gupta"). The Applicants have reviewed the cited references and respectfully submit that the present invention as recited in Claims 1, 4-10, 13-19 and 22-26 is not shown or suggested by Dehnert and Gupta, alone or in combination.

Applicants respectfully submit that neither Dehnert nor Gupta nor the combination thereof shows or suggests implementation of partial speculative operation after a rollback operation. According to Dehnert, following a rollback, an interpreter decodes and executes instructions sequentially (please see the last paragraph in the left column on page 2 and Figure 1 of Dehnert, for example). On page 4, Dehnert states "[f]ollowing a rollback, CMS usually interprets the x86 instructions corresponding to the faulting translation, executing them in the original program order" (emphasis added). While the use of the word "usually" may imply an alternative to interpreting and executing instructions in order, the only alternative taught by Dehnert appears to be to generate a more conservative translation (please see page 3 of Dehnert, starting with the last

paragraph in the left column). However, at least as understood by the Applicants, even a more conservative translation begins with interpreting the x86 instructions sequentially. Thus, Applicants respectfully submit that, within the context of Dehnert, the word "usually" has no weight and at least does not appear to connote the possibility of a rollback response other than in-order instruction execution.

Thus, Applicants respectfully submit that Dehnert does not show or suggest "operating in a first mode of speculative operation, said first mode permitting speculation of a first set of speculative operations; experiencing an event during said operating; in response to said event, restoring a state of said microprocessor to a state committed to memory prior to said event; subsequent to said restoring, suspending a non-null first subset of said first set of speculative operations, wherein speculative operations in said first subset are not permitted during said suspending; and exiting said first mode and entering a second mode of speculative operation in response to said event, said second mode permitting speculation of a non-null second subset of said first set …" as recited in independent Claim 1. Applicants respectfully submit that Gupta does not overcome this shortcoming of Dehnert, and therefore Claim 1 is allowable over the cited references.

By similar rationale, Applicants respectfully submit that Dehnert and Gupta, alone or in combination, do not show or suggest the limitations of independent Claims 10 and 19 and that these claims are allowable over the cited references.

Each of the Claims 4-9 includes all of the limitations of independent Claim 1 plus additional limitations. Each of the Claims 13-18 includes all of the limitations of independent Claim 10 plus additional limitations. Each of the Claims 22-26 includes all of the limitations of independent Claim 19 plus additional limitations. Applicants respectfully submit that Dehnert and Gupta, alone or in combination, do not show or suggest the limitations of Claims 4-9, 13-18 and 22-26 in combination with the limitations of their respective base claims, and that Claims 4-9, 13-18 and 22-26 are in condition for allowance as depending from allowable claims.

Furthermore, Applicants respectfully submit that Dehnert and Gupta cannot be combined in the manner suggested, because to do so would render one or the other of the references (specifically, Dehnert) inoperable for its intended purpose. More specifically, according to the present claimed invention, a full speculation mode and a partial speculation mode are enabled, and each of those modes permits a non-null set of speculative operations. But in Dehnert's "second mode" (that is, the period following a rollback), speculative operations are apparently not permitted. Because the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified (Dehnert), the teachings of the references are not sufficient to render the claims *prima facie* obvious.

In summary, Applicants respectfully submit that the basis for rejecting Claims 1, 4-10, 13-19 and 22-26 under 35 U.S.C. § 103(a) is traversed and that these claims are allowable over the cited references.

<u>Conclusions</u>

In light of the above remarks, Applicants respectfully request reconsideration of the rejected claims.

Based on the arguments presented above, Applicants respectfully assert that Claims 1, 4-10, 13-19 and 22-26 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Please charge any additional fees or apply any credits to our PTO deposit account number: 50-4160.

Respectfully submitted,

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